R E P O R T R E S U M E S

ED 016 495 LI 000 080

FEASIBILITY OF COOPERATION FOR EXCHANGE OF RESOURCES AMONG ACADEMIC AND SPECIAL LIBRARIES IN PENNSYLVANIA.

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REPORT NUMBER PSL-MONGR-5 PUB DATE 67
EDRS PRICE MF-$0.25 HC-$1 [illegible] 28P.

DESCRIPTORS- *COLLEGE LIBRARIES, *INTERLIBRARY LOANS, LIBRARY MATERIALS, *LIBRARY COOPERATION, *SPECIAL LIBRARIES, *STATE LIBRARIES, FEASIBILITY STUDIES, LIBRARY PROGRAMS, SYSTEMS DEVELOPMENT, STATE ACTION, COORDINATION, PENNSYLVANIA

THIS STUDY EXAMINES THE PRESENT EXCHANGE OF RESOURCES BY PENNSYLVANIA ACADEMIC AND SPECIAL LIBRARIES AND SUGGESTS MEANS FOR A MORE EFFECTIVE SYSTEM OF COOPERATION, BASED ON THE ASSUMPTION THAT THE STATE HAS A RESPONSIBILITY IN THIS AREA. QUESTIONNAIRES WERE SENT TO SPECIAL, COLLEGE, AND UNIVERSITY LIBRARIES FOR INFORMATION ON INTERLIBRARY LOAN INVOLVEMENT, AND PERSONAL INTERVIEWS WERE ALSO HELD WITH THE ACADEMIC AND LIBRARY STAFFS AT EIGHT SMALLER COLLEGES. USE OF THE PHILADELPHIA UNION LIBRARY CATALOG AND EXCHANGE ACTIVITIES OF THE FRANKLIN INSTITUTE LIBRARY WERE BOTH STUDIED FROM SAMPLES OF THEIR REQUESTS. IT WAS FOUND THAT A VOLUNTARY SYSTEM OF EXCHANGE EXISTS, AND IT CAN BE DESCRIBED BY CURVES OF USE ACCORDING TO TYPE OF LIBRARY. SUGGESTIONS FOR A MORE EFFECTIVE SYSTEM INCLUDE--(1) AGREED UPON SCOPE FOR THE VARIED INSTITUTIONS, (2) A MULTI-CENTERED AND STATE-WIDE SYSTEM WITH REGIONAL AND STATE PROGRAMS, (3) NO REQUIREMENTS OF TOTAL RESOURCE COMMITMENT OR LIMITATION OF AN INSTITUTION'S ACTIVITIES, (4) GOALS TO LOWER BARRIERS TO USE AND INCREASE TOTAL RESOURCES, AND (5) MEASUREMENT OF USE. INITIATIVE FOR THE PROGRAM SHOULD COME FROM THE STATE, AND IMMEDIATE FURTHER STUDY SHOULD BE FOLLOWED BY A DETAILED PROGRAM STATEMENT. AN APPENDIX SUGGESTS A DATA BANK TO MAKE CERTAIN DATA GATHERED BY STATE AGENCIES AVAILABLE. (JB)

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PENNSYLVANIA STATE LIBRARY
MONOGRAPH No. 5

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OFFICE OF EDUCATION

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UNIVERSITY PARK, PENNSYLVANIA. 1967

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PREFACE

This report deals with a subject of growing concern not only in Pennsylvania but in the world of academic and research libraries generally, i. e., how to make the best use of information resources through fair and rapid exchange of materials and through other devices of cooperation among libraries serving scholarly and research interests.

The foresight of Mr. Blasingame, former State Librarian, is reflected in the fact that his design for this study antedated the passage of Title III of the federal Library Services and Construction Act, which title was created "for the systematic and effective coordination of the resources of school, public, academic and special libraries and special information centers."

The report will assist institutions in planning their own library programs and will serve as a base for the State Library in finding a coordinating role to suit the conditions which the report itself describes.

ERNEST E. DOERSCHUK, JR.
State Librarian
Harrisburg, Pennsylvania

May, 1967

PENNSYLVANIA STATE LIBRARY
MONOGRAPH SERIES

1. *Library Service in Pennsylvania, Present and Proposed.* Lowell A. Martin. 2 Volumes. 1958.

2. *A Study and Recommendations of Library Districts for Pennsylvania.* Kenneth E. Beasley and Carl E. Robinson. Institute of Public Administration, The Pennsylvania State University. 1962.

3. *A Statistical Reporting System for Local Public Libraries.* Kenneth E. Beasley. Institute of Public Administration, The Pennsylvania State University. 1964.

4. *Southeastern Pennsylvania Processing Center Feasibility Study.* Sarah K. Vann. Harrisburg: Pennsylvania State Library. 1967.

5. *Feasibility of Cooperation for Exchange of Resources Among Academic and Special Libraries in Pennsylvania.* Ralph Blasingame. Institute of Public Administration, The Pennsylvania State University. 1967.

6. *Progress and Problems of Pennsylvania Libraries, A Re-Survey.* Lowell A. Martin. Harrisburg: Pennsylvania State Library. 1967.

7. *The Public Library and its Community: A Study of the Impact of Library Services in Five Pennsylvania Cities.* William R. Monat, Lawrence K. Pettit, and Philip M. Clark. Institute of Public Administration, The Pennsylvania State University. 1967.

FOREWORD

If all of the academic and special research librarians within a state could be linked together for quick and easy access to each other's collections, a tremendous library resource would be available to the individual user of any one of the libraries. Tantalizing as this proposition might be, there are many practical difficulties in the way of establishing such an ideal system. Some degree of cooperation, however, which would begin to link the component libraries into a larger system would appear feasible. The purpose of this study has been to examine the present degree of cooperation among such components, and to suggest feasible means for enhancing the exchange of resources.

This study is one of a series conducted by the Institute of Public Administration of The Pennsylvania State University under contract with the Pennsylvania State Library. The initial research for this study was begun in 1963 under the direction of Kenneth E. Beasley, who was then a member of the Institute staff. The work has been continued since 1964 under the direction of Ralph Blasingame, who is Professor of Library Service, Graduate School of Library Service, Rutgers – – The State University, New Brunswick, New Jersey. Professional staff assistance has been provided by Ernest DeProspo, Instructor in Political Science and Public Administration at The Pennsylvania State University, and Philip M. Clark, Research Assistant, the Institute of Public Administration. Thanks are due to a number of graduate students in public administration who have assisted with the research. The project would not have been possible without the generous cooperation of the college administrators, faculty and librarians of the academic libraries and the staffs of the special libraries that provided the data inputs for the study.

ROBERT J. MOWITZ, DIRECTOR
Institute of Public Administration
The Pennsylvania State University

I/INTRODUCTION

The contract under which the data used in this report were collected was initiated in 1963 and did not provide for the rendering of a report. It was then anticipated that this initial study would be treated as exploratory and that it would serve to identify several areas for further study in a more exact and extended fashion. In only one area (student use of libraries) was data of an original nature collected under the first contract. That data will be used in a subsequent report. For many reasons, the anticipated studies were not conducted. Consequently, this report takes the form of a set of observations on the feasibility of a cooperative system for the exchange of resources among institutions using specialized information, some characteristics of such a system, and the possible position of the state government. This report is not to be considered, then, as a set of findings and conclusions arrived at after a rigorous, complete investigation.

Since the inception of this study, several very significant publications have been issued which might have affected the scope of this study. For example, the State Board of Education's "Report of Progress on a Master Plan for Higher Education in Pennsylvania" has suggested some of the factors which should be taken into account in Commonwealth support of higher education. One of those is a "Library support factor."[1] Another significant effort is represented by the work done on criteria for academic library collections.[2]

The institutions about which these observations have been made include academic institutions, industries, businesses and governmental agencies. While the conclusion of this study is that such cooperation is feasible and desirable, it should be pointed out early that such cooperation requires leadership and financial support in large measure. It should also be pointed out that the values of information supply of a sophisticated type do not accrue only to persons connected with organizations. In a democratic society, the opportunity for the individual to have free access to new, important information in all fields of endeavor must be open. As the costs of producing, organizing and disseminating information grow, one may expect this access to be restricted by the imposition of user charges in various forms. Restrictions will also be imposed by the very volume of available information. As the volume increases, use of various means for reaching into the stores of information will require increasing levels of skill and knowledge relating to the retrieval process itself. Maintaining free access to information for each person will require the state to assume its traditional role of equalizer, but in ways very different from those in use at present. This responsibility of equalization of opportunity and that of assuring that the machinery for continual economic progress exists are the particular area of operation for the state government.

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[1]State Board of Education. "Report of Progress on a Master Plan for Higher Education." Harrisburg, Pennsylvania, 1966. page 39.

[2]Clapp, Verner W. and Jordan, Robert R., "Quantitative Criteria for Adequacy of Academic Library Collections," *College and Research Libraries*, Vol. 26, pp. 371-380, September, 1965.

II / REASONS FOR COOPERATION

This study has, as a basic assumption, that there may be a role for the state government in encouraging and facilitating cooperative programs among academic institutions and other organizations requiring special information services. This state position, it is further assumed, results from the state's responsibility to facilitate a flow of information in somewhat the way that the state facilitates the flow of goods over a system of highways. The flow of information to education, business, industry and government will in the near future be of equal importance with a flow of goods.

The responsibility of the state toward public libraries, which may be considered as one aspect of an information network, has been stated in The Library Code[3] and in the appropriations made in support of the program set forth in it. However, there is no easy or natural transition from the public library to the academic and special library.

The libraries in question in this study are, with few exceptions, parts of other organizations. Those organizations have objectives to which library objectives are subordinate, necessarily. The libraries of academic institutions, no matter how much their managers may wish to contribute to community life, must first support the curricula of the institution and aid the faculty in its work. The special library, again with a few exceptions, often is circumscribed in the relationships it may establish with other institutions and with individuals. Some of these limits result from the need to protect the developing interests of the parent industry or business; some from financial decisions reflected sooner or later on a profit and loss statement. Another set of limits arises from the fact that academic institutions and industries have traditionally and properly defended their separate identities and prerogatives vigorously. Beyond that, many have established liaisons with government and have maintained and developed those associations for many years. The aid received currently from the state legislature, for example, by private academic institutions in Pennsylvania far exceeds the aid given to the public library program.

One may argue that academic and special libraries are no more parts of other institutions than are public school libraries, and we make plans for those libraries at the state level without observing the cautions suggested above. However, the state has long exercised its leadership role with and its duty to assist in the support of the schools. Thus, its activities and the activities of the professional associations accustomed to working in harmony with state agencies involved flow from a long established relationship. This relationship does not exist in nearly the same form or intensity in the area of academic institutions (except, of course, for the state colleges). It exists in even more tenuous form with business and industrial enterprises.

The sum of these remarks is that, were a plan to be made for cooperation among these libraries by an agency not prepared to deal with the institutions, one could expect almost automatic failure.

Libraries are generally recognized as being essential to many types of education and research. These educational activities vary from the structured classroom education of the school or college to the completely unstructured search for information and knowledge characteristic of a pluralistic society. A common picture of the research worker is one of the scientist in the laboratory seeking to learn some fact or relationship without thought of its applicability. We increasingly recognize that such a stereotype fails to take into account that a very great deal of "research" represents the application of known facts to problems of development. These latter activities are carried on in industries, businesses, universities and by individuals having no formal organizational connections.

[3]The Act of June 14, 1961, P. L. 324.

The most distinctive characteristic of all of these activities is their great diversity. This diversity, furthermore, is essential and we may expect the further fractionating of educational and research activities rather than the reverse. We may also expect to see the number of persons involved in educational and research activities increase.[4] The factors involved are, in general: (1) the increasing population; (2) the increasing percentage of that population who must be educated to meet the demands of an automated society; (3) the consequent need for expansion of facilities at institutions of higher education, state and private; (4) the burgeoning programs of research and development in both the private and public sectors of the economy; and (5) the need to translate the findings of research into programs of state and/or local action in all areas from water pollution to medical practice.

All of these activities do or will require stores of information of various kinds. This assertion is borne out by the records of exchange of materials among all types of private and public organizations presented later in the chapter on interlibrary loan. The necessity for having accessible stores of information is also borne out by various other studies.[5] The library is our classic means of organizing the records of the past for current use. They must serve as one type of information store and are thus necessary to future social and economic well-being.

Pennsylvania's 145 institutions of higher education[6] exhibit a wide range of attitudes toward provision of library services for their students, faculty and, in many institutions, research programs.

There is only one large general library in the state which ranks among the top fifteen such libraries in the nation. Furthermore, even there, the per student expenditure for library services (operating expenditures) was $81.00 in 1962/63 as compared to higher expenditures per student in all but two of the university libraries which ranked above it in size. Table 1 sets forth the picture of the thirty-five largest university libraries in the nation as of 1962/63, the latest date for which such information was available at the time of the survey.

The information presented in this report in the next chapter suggests strongly that the libraries of many of the state's liberal arts colleges and smaller universities vary widely in their ability to support extended programs of education. The information gathered for this study on special libraries indicates also that few of these libraries are in any way prepared to exist independently at present. In sum, then, the condition of Pennsylvania's libraries which support academic and research programs is such as to require leadership and programs of cooperative action if they are to carry increased burdens in the future. The present programs of aid to public libraries, when fully developed, will provide for certain of these future needs, and they may provide a system of outlets for informational materials generally. However, the public library has its own goals as a general source of educational, cultural and recreational opportunities for its community and cannot be considered as a substitute for programs aimed at the further development of other types of outlets for specialized information.

TABLE 1

Ranking of Selected Libraries by Size of Collection

	Institution	No. of vols.	Per Student Expenditure Dollars	Rank
1	Harvard	7,073,689	$385	1
2	Yale	4,693,072	254	3
3	U. of Ill.	3,634,643	80	19
4	U. of Mich.	3,147,727	95	14
5	Columbia	3,088,460	148	11
6	U. of Cal., Berkeley	2,829,330	163	10
7	Cornell	2,413,369	214	4
8	Stanford	2,379,079	190	6
9	U. of Chicago	2,271,450	210	5
10	U. of Minn.	2,220,811	39	33
11	U. of Cal., Los Angeles	1,866,651	168	9
12	U. of Penna.	1,835,638	81	18
13	Princeton	1,834,074	300	2
14	Indiana U.	1,787,194	52	29
15	Northwestern U.	1,763,039	74	21
16	Duke U.	1,592,672	189	7
17	Ohio State	1,591,346	54	27
18	U. of Texas	1,578,490	72	22
19	U. of Wisc.	1,445,521	57	26
20	U. of Utah	1,378,528	48	32
21	U. of N. C., Chapel Hill	1,349,584	108	12
22	U. of Wash.	1,267,031	94	15
23	Johns Hopkins	1,262,532	99	13
24	N. Y. U.	1,222,821	31	34
25	U. of Va.	1,214,625	79	20
26	Brown U.	1,211,378	185	8
27	U. of Mo.	1,156,596	53	28
28	U. of Iowa	1,131,845	92	16
29	La. St. U. (LSU)	1,100,889	63	25
30	Rutgers	1,078,916	49	31
31	U. of Pittsburgh	1,075,213	65	24
32	U. of South. Calif.	1,052,942	51	30
33	U. of Kansas	1,018,347	87	17
34	U. of Fla.	1,017,405	81	18
35	U. of Kentucky	1,003,158	70	23

[4]For further discussion, see the "Report of Progress on A Master Plan for Higher Education in Pennsylvania." Harrisburg, State Board of Education, 1966.

[5]For example, Voigt, Melvin. *Scientists' Approaches to Information*. ACRL Monograph No. 24. Chicago, American Library Association, 1961.

[6]State Board of Education, *op. cit.*, pp. 61-62.

III/COLLEGE AND SPECIAL LIBRARIES

A questionnaire requesting certain information was sent to academic institutions having libraries with fewer than 80,000 volumes. The purpose of this questionnaire was to gain some knowledge of the nature and activity of the library of each institution and to see to what extent the libraries were involved in interlibrary loan. Of 107 questionnaires sent out, 90 (84%) were returned. Some of the information gained will be presented here, in brief. The returned questionnaires were coded to indicate the category of library, as follows:

Code	Type of institution	Number of responses
100	Outlying campuses of universities	15
200	Junior Colleges	11
300	State Colleges	14
400	Private Colleges	38
500	Specialized institutions	12

At the time the questionnaires were returned, the student bodies of the institutions were as recorded in Table 2.

Tables 3 through 5 indicate the general distribution of materials among these institutions. Recent emphasis on book purchases in the state college libraries probably has altered the situation somewhat.[7]

Administratively, the librarians of these institutions are relatively highly placed in the hierarchy, as shown in Table 6.

Problems of various kinds were recognized by the librarians, as is indicated in Table 7. It should be noted that about two-thirds (64) of the respondents reported that they had plans for expansion or new buildings. In the time which has passed since the data were

[7]Recent correspondence with all state college and a selection of private college librarians reveals that the figures are now substantially higher in a few state colleges. However, provision of necessary staff, also particularly in the state colleges, has negated much of the value of those increases. Furthermore, the higher per student rates of expenditure must be maintained for considerable periods of time if real increases in capacity are to be realized.

TABLE 2
Total Number of Full-Time Students Fall, 1962

Type of Respondent	Number of Responses	Under-graduates	Graduate Students	Total Students	% of Total Students by Type of Respondent
100	11	3,751	71	3,822	5
200	11	4,016	—	4,016	6
300	14	27,991	807	28,798	40
400	33	30,315	876	31,191	42
500	10	3,515	1,577	5,092	7
	—	—	—	—	—
Total	79	69,588	3,331	72.919	100

TABLE 3
Total Volumes in Libraries by Type of Respondent

Type of Respondent	Number of Respondents	Total Volumes	Percentage of Total Volumes in Each Type of School
100	15	71,599	3
200	11	225,653	8
300	13	747,249	28
400	34	1,511,900	56
500	7	135,206	5
	—	—	—
Total	80	2,691,607	100

collected, many new college library buildings have been built. The Higher Education Facilities Act undoubtedly was a factor in this expansion.

The librarians replying to the questionnaire almost all reported recent changes in circulation patterns. For the most part, the change reported was in the nature of increased general use rather than increased use of any particular service.

Attitudes toward cooperative plans on the part of the colleges are suggested by analysis of some of the questions on the questionnaire referred to earlier.

Table 8 is a tabulation of responses to the question, "Is the general public allowed to use your library?"

Table 9 represents a tabulation of public availability of various services.

Table 10 summarizes replies to the question, "Does the library have any program of cooperation with any other libraries in the area (e.g., union catalogue, cooperative purchase of books or other material, etc.)?"

Attitudes on the part of librarians toward the desirability of interlibrary cooperation are indicated by Table 11.

Interviews: In order to gain a personal impression of the attitudes and problems prevalent on campuses of institutions in this group, interviews were arranged in eight institutions. The interviews were not strictly structured but generally followed an outline which it was hoped would reveal attitudes of various members of the test schools toward the library, the interrelation-

TABLE 4

Total Number of Periodical Volumes or Titles Currently Being Received

Type of Respondent	Number of Respondents	Total Periodical Holdings	Percentage of Total Holdings
100	15	1,398	5
200	11	1,654	6
300	13	7,108	25
400	36	13,376	48
500	12	4,343	16
Total	87	27,879	100

TABLE 5

Total Number of Periodical Indexes Received

Type of Respondent	Number of Respondents	Total Periodical Indexes	Percentage of Total Indexes
100	15	36	7
200	10	36	7
300	14	141	26
400	35	275	51
500	12	49	9
Total	86	537	100

TABLE 6

Placement of Library in Chain of Command

Librarian Reports to:	100	200	300	400	500	Total
President or Director	2	7	8	15	5	37
Dean	—	4	6	19	7	36
University Librarian	11	–	–	—	–	11
Vice-President	—	–	–	2	–	2
						86

TABLE 7

Major Physical Problems

	100	200	300	400	500	Total
Lack shelving	2	1	3	7	1	14
Lack space	10	7	5	20	7	49
Understaffed	1	–	2	—	1	4
Poor arrangement	1	1	5	1	3	11

TABLE 8

Use of Library by General Public

	Public Allowed		
	Yes	No	*Not* Encouraged
100	11	3	6
200	7	3	2
300	13	1	6
400	31	5	14
500	6	6	6

TABLE 9

Services Available to the General Public

	100	200	300	400	500	Total
Check out books	9	6	8	32	3	58
Use research facilities	8	5	13	31	7	64
ILL service	6	3	6	17	5	37
Study facilities	7	4	11	29	7	58
Audio visual aids	2	4	6	16	1	29
Photocopying	–	–	1	2	–	3
Study hours for children	–	–	1	—	–	1
Microfilm	–	–	—	2	–	2
Other	–	1	1	—	–	2

ships among faculty, administration and the library. The questions were designed to assist in the interpretation of the quantitative data collected by various means.

Method: The colleges involved in this interview study were generally selected for some similarity of size of student body and a relationship to a major area where other more extensive library facilities might be available. The first three campuses are related to the Pittsburgh area. The others are in the area surrounding Bucknell University. Initial contact was made through the presidents by letter, and then followed up with a personal call on the librarian. Scheduling of interviews was done through the librarians. Each campus was to have represented in the interviews the president, the dean of students, an administrative officer, about eight members of the faculty who were division or department heads, the librarian, and an assistant librarian or other library specialist. The interviews lasted anywhere from thirty minutes to one hour. There was no attempt to specify the subject areas the interviews would cover except that some effort was made to obtain a cross-section of the various academic disciplines.

The eight colleges were selected because of their size and geographic location, not on any systematic consideration of variables. Thus, it is entirely possible that impressions drawn from the interviews may not be transferable from one institution to another. However, some impressions are so strong and were so consistently encountered as to be worth mentioning:

TABLE 10
Cooperation with Other Libraries

Type of Respondent	Do You Cooperate Yes	No	Local Public	Local College	Any Library	State Library	Local H. S.
100	6	8	3	1	1	–	–
200	6	5	1	4	1	–	–
300	7	7	2	3	3	–	–
400	18	16	12	14	3	1	–
500	7	5	1	1	6	–	–
	44	41	19	23	14	1	0

TABLE 11
Desirability of Interlibrary Cooperation

	100	200	300	400	500	Total
Cooperation desirable:						
Yes	5	3	7	26	5	46
No	4	7	7	6	5	29
Coordinated Purchases	–	2	3	4	2	11
ILL	2	2	6	13	2	25
Reciprocal Use of Facilities	3	1	2	13	1	20
Union Catalog	–	1	1	4	1	7
Photocopying	–	–	1	–	–	1
Cooperative Storage	–	–	–	1	–	1
Use of Microform	–	–	–	1	1	2
Regular Messenger Service	1	–	–	–	1	2
Cooperation not desirable:						
Wish to be Independent	–	1	1	–	–	2
Added Workload	–	1	3	1	–	5
Needs Not Similar	–	2	1	–	2	5
Purchasing Methods Different	–	–	1	–	–	1
State Regulation	–	–	1	–	–	1
Collection Too Small	2	–	1	–	1	4
Transportation	–	–	–	1	–	1
Would Slow Circulation	–	–	1	1	–	2
No Need	1	1	–	1	–	3
Lack of Material to Lend	–	–	–	–	1	1

1. Problems of growth in numbers of students, change of educational technique, and expansion of curricula were common to all but one of the colleges. All of these were felt to affect the libraries directly, both libraries of the institutions where interviews were conducted and, in most cases, nearby libraries.

2. Faculty, administrators and librarians generally believed that the libraries have had a good deal of support in recent years. However, it was quite common for faculty members to express the thought that while the library was "generally adequate," it was weak in the area of particular interest of the faculty member being interviewed.

3. Interlibrary loan apparently does not enjoy a very high reputation. Librarians quite generally expressed reluctance to use it for a variety of reasons; e. g., "red-tape" and consequent cost in terms of staff time, uncertainty of success, feelings of not wishing to impose on other libraries. Faculty members cited similar reasons, the most common being lack of speed, for not using interlibrary loan.

4. Faculty members and administrators seemed ordinarily more ready to think along regional terms in library organization than did librarians.[8] There was, however, no evidence that serious thought had been given either to the opportunities or problems which might be encountered. Faculty members in the group of libraries near Bucknell and Penn State seemed ready to use those libraries. References to the logic of cooperation with those libraries were common.

5. Lack of speed in acquiring and preparing new books for use was a common complaint of both librarians and faculty. Shortages of personnel and, in the state colleges particularly, increased allocations of funds to the book budget without assignment of necessary positions were common.

6. Instruction in the use of the library was infrequently mentioned.

7. Research and publication seem not to be matters of high priority in these colleges. Administrators commonly stated willingness to grant time for research when specific projects are developed by faculty members. However, heavy teaching loads (12 to 20 semester hours) were cited often as the reason for this lack of emphasis on the "publish or perish" attitude common in many colleges and universities.

8. A good library is often considered to be important in the "public image" of the institution. A good image is important in attracting a good faculty and above-average students, both necessary to the upgrading of the institution. This attitude, expressed often, is by no means unanimous.

9. There is an obvious conflict between the desire to assure coverage of many subjects with current and historical material and, at the same time, to provide adequately for duplication of titles in greatest demand. This conflict is marked in the state colleges particularly, though it is often mentioned elsewhere.

10. Serious doubt was expressed by a number of faculty members in the state colleges as to the adequacy of their libraries to support programs of graduate education which, they felt, were in the offing.

11. Several librarians referred to having discouraged use of the library by residents of the town whereas this use had once been tolerated if not encouraged.

Special Libraries: Questionnaires were sent to four hundred special libraries in Pennsylvania; 159 were returned. These reporting libraries held about 6,000,000 volumes and acquired just over 400,000 items in the reporting year. They tended to acquire substantial amounts of material in microform, and substantial numbers of documents not in book form, mostly federal publications (950,426) as contrasted with state (50,666) and "other" (284,108). They appear to be rather liberally equipped with microfilm readers, copying machines and other special devices. While most (70) used the familiar Dewey Decimal system of classification, quite a few (35) used the Library of Congress system, and no fewer than fourteen other systems of classification were reported.

These libraries are operated by individuals who, for the most part, are library school graduates. Some other special qualifications were required, ranging from secretarial skills to special archival training. Special subject knowledge was a requirement in 42 instances. The person directly responsible for the library most often reported to a person whose position did not require special knowledge of libraries (100 to 45).

For these special libraries relatively high circulations (7,550,000) were reported in view of their total holdings. It was also reported that interlibrary loan and other similar services were used liberally, with 17,053 items being borrowed and 50,363 lent. While the bulk of this activity was with other libraries in Pennsylvania, 83 also were reported as participating in such exchanges with libraries outside the state, 1,835 items being borrowed and 2,344 lent. Only seven of the reporting libraries mentioned the Franklin Institute as a source of interlibrary loans or of copies of material. As will be seen later, that library is liberally used by special librarians in the Philadelphia area as a source. Consequently, some doubt must exist as to whether the replies to this questionnaire are representative of all special libraries. Thus, the fact that the reporting librarians favored expanded interlibrary cooperation (65 to 41) may or may not be a reflection of the sentiment among all special librarians.

[8] Of course, this comment may only reflect the fact that librarians are more acutely aware of the problems involved than are administrators and faculty members.

IV/INTERLIBRARY LOAN

Interlibrary loan is a traditional service aimed at increasing the availability of materials through cooperative action. It is regulated by common consent and the American Library Association's Interlibrary Loan Code.[9] In theory, materials of recent date, in great demand or required for regular study are neither requested nor furnished on interlibrary loan. Quite apparently, the institution which supports a relatively small general library of its own stands the greatest chance to "benefit," i. e., draw more from interlibrary loan than it supplies. Conversely, the institution which supports a large general library or a significant specialized collection stands the least chance of benefiting. Interlibrary loan is highly thought of by librarians. In a regularized form, it provides much of the logic for the system of public libraries in effect in Pennsylvania. Four libraries, the Free Library of Philadelphia, the State Library, The Pennsylvania State University Library, and the Carnegie Library of Pittsburgh, designated as regional library resource centers, are reimbursed for making their collections available to other libraries. Similarly, certain libraries, designated as district library centers, carry, among other duties, the responsibility of supplementing materials in local libraries.[10] The Philadelphia Union Library Catalogue assists in tying these libraries together and in opening to them the resources of a group of other libraries, largely in southeastern Pennsylvania.

The data for this study relating to interlibrary loan were all collected from existing records, or, in one case, from current operations, according to existing practice. This approach was taken for three reasons. First, it was not financially possible to generate data for this study. Second, this study was planned as an exploratory effort. Third, it was judged desirable to make this type of inquiry before making plans for generating data in order to see what problems might be uncovered. Further studies are needed in order to check this one, to gain greater knowledge about how *information*, including information in library materials, is exchanged and to gain knowledge of costs. Here, costs should include at least the following: price, time costs, and forfeiture of other alternatives.

Liberal Arts Colleges and Specialized Institutions: It is interesting to note before discussing the data gathered on numbers of interlibrary loans for this study that while many colleges and specialized institutions, even those which lend substantially more items than they borrow, are guided by the Interlibrary Loan Code, they add very few restrictions on lending, even though they might reasonably restrict use of certain types of materials. The question "What are your restrictions on interlibrary loans?" brought quite varied response. Ten institutions reported "no restrictions" while eleven merely reported adherence to the Code. The most commonly reported restriction was against lending material in demand locally (18). Except that ten institutions noted that they do not lend periodicals, no category of materials was singled out as not available for loan to another institution. Six institutions indicated that they lend for "advanced work" only. The sum of replies to this question suggests that few local restrictions are applied to interlibrary loan.

The total number of interlibrary loan transactions reported by the colleges and specialized institutions is shown in Table 12.

From this information some inferences may be drawn:

1. Interlibrary loan, in sum, brings about some inter-institutional exchange of materials to the benefit of most of the institutions studied.
2. At the same time, considering the number of institutions involved, the number of students and faculty members and the resulting variety of possibilities for exchange of materials, the 7,864 total transactions seems low in view of the few restrictions imposed.
3. These institutions borrow, as a group, substantially more than they lend. This pattern holds true in every category except for specialized institutions, where quite the opposite is true.
4. The 14 state colleges and 12 specialized institutions (as compared to 80 private colleges) account for an inordinate share of the total transactions, the state colleges borrowing a great deal and the specialized institutions lending a great deal.
5. All types of libraries are called upon by these academic and specialized institutions for materials.
6. At the same time, these institutions call upon other academic libraries most commonly, in-state and out-of-state.

The variety in activity of interlibrary loan from one institution to another within categories is of interest. The following table (Table 13) illustrates the extreme differences in this respect. It should be noted that, in each category, a very few institutions far exceed the average.

[9] A. L. A. General Interlibrary Loan Code 1952: Revised edition 1956. A. L. A., Chicago, 1956. 10pp.

[10] See Martin, Lowell, *Library Service in Pennsylvania*. Harrisburg, Pa., The State Library, 1958. 2v.

TABLE 12

Items Loaned and Borrowed on Interlibrary Loan

	Public Libraries		Academic Libraries				Special Libraries			
			Lent to		Borrowed from		Lent to		Borrowed from	
	Lent to	Borrowed from	Out of State	In State	Out of State	In State	Out of State	In State	Out of State	In State
100	5	198	0	47	4	451	22	0	14	6
200	5	120	22	35	16	25	5	4	0	1
300	90	120	31	66	842	802	12	4	107	86
400	133	391[11]	83	755	466	971	220	9	136	193
500[12]	10	16	25	303	34	787	125	33	27	7
Total[13]	243	845	161	1206	1362	3036	384	50	284	293

Total items lent	2,044
Total items borrowed	5,820
	7,864

TABLE 13

Variety in Interlibrary Loan Activity

Category of Respondent	No. of Items Borrowed		No. of Items Loaned	
	High	Low	High	Low
100	161	0	26	0
200	34	0	66	0
300	645	4	59	0
400	318	1	225	0
500	739[14]	0	1019[14]	0

Ten of the liberal arts colleges in these categories lent more items than they borrowed. These were all private colleges. In addition, seven of the specialized institutions lent more than they borrowed, though only three of these (all medical schools) participated in any sizeable number (i. e., more than thirty) of transactions. These three medical school libraries lent a total of 1,430 items to other institutions and borrowed 882, for a total of 2,312 transactions. A figure for the total number of volumes held by the one which both lent (1,019) and borrowed (739) the largest number of items is not available. The other two had 10,001 and 25,956 volumes respectively. Information on interlibrary loan data by Dewey Decimal Classification was not available.

Table 14 indicates the variety of union catalogs and lists responding libraries regularly used.

[11]146 from Pennsylvania State Library.
[12]Most of this activity is accounted for by medical schools.
[13]Not all transactions could be classified in this manner.
[14]Medical schools account for most of this activity.

LARGER LIBRARIES

A separate questionnaire concerned solely with interlibrary loan activity was sent to twenty-three college and university libraries having collections of over 80,000 volumes. The same questionnaire was sent to the two largest public libraries. However, the reports from these latter two libraries have not been included in these tabulations. They were omitted because the figures reported varied so drastically as to raise serious questions of accuracy. Apparently, the term "interlibrary loan" was not defined so as to be interpreted similarly in both academic and public libraries. Further detailed study of public library participation in interlibrary loan is indicated.

Subject Distribution

It was thought that the distribution of interlibrary loan by subject would be of importance. It still seems so, but apparently this information is seldom kept. Only six libraries could supply this information. It is shown in Table 15.

The Dewey classes of 300 (Sociology), 600 (Applied Science) and 800 (Literature) account for just over one-half of all transactions (2,444 out of 4,825). These are such broad groupings as not to mean much. However, the similarity of these figures to those of a sample taken from the Union Library Catalogue operation (to be discussed later) suggests that they may be about normal.

The potential rewards seem great of analyzing subject distribution of interlibrary loan activity both for internal library management and for analysis of the need for further cooperation. Further and more detailed study should be a matter of high priority. It

TABLE 14
Union Catalogs Used

	100	200	300	400	500	Total
Use Union Catalogs						
YES	7	3	11	26	10	57
NO	6	5	3	7	2	23
Pennsylvania State Library	–	–	2	0	0	2
National Union Catalog (Library of Congess)	–	1	8	12	1	22
Union List of Serials	2	–	3	9	1	15
Philadelphia Union Library Catalogue	1	1	7	15	10	34
Cleveland Public Library	–	–	–	2	–	2
Alliance College	–	–	–	1	–	1
Northeastern Union List (Kings College)	2	–	–	6	–	8
Local	–	–	–	1	–	1
Western Reserve University	–	–	–	1	–	1
Miscellaneous	3	1	–	1	1	6
	8	3	20	48	13	92

TABLE 15
Subject Distribution of Items Loaned and Borrowed

Dewey Class.	Loaned	Borrowed	Rank by Total Transactions
000	72 (9)	26 (10)	(9)
100	183 (6)	120 (7)	(6)
200	120 (8)	136 (6)	(8)
300	568 (1)	283 (2)	(2)
400	59 (10)	34 (9)	(10)
500	471 (2)	248 (3)	(3)
600	355 (4)	552 (1)	(1)
700	164 (7)	95 (8)	(7)
800	444 (3)	242 (5)	(4)
900	354 (5)	281 (4)	(5)

would be especially interesting to relate the subjects in which materials are borrowed and lent to data on holdings and current acquisitions.

Total Activity

The total number of items *borrowed* by the twenty-two responding libraries was 9,938. The total number of items *loaned* was 18,361. The total of all transactions is, then, 28,299. These libraries, then, accounted for a substantially larger number of transactions than did the 80 libraries previously discussed.

Nine of these twenty-two libraries reported borrowing more than they lent; the other thirteen lent more than they borrowed. The nine are liberal arts college libraries having collections of less than 200,000 volumes. Of the other thirteen, all but four have collections of more than 200,000 volumes. One of those four is a technical institute; the others are liberal arts colleges with some graduate programs.

Table 16 indicates, so far as the data allows, the distribution of interlibrary loan activity by type of library.

TABLE 16
Interlibrary Loan Activity In-State and Out-of-State

	Lent to			Borrowed from		
Type of Library	In State	Out of State	Total	In State	Out of State	Total
Public			2,053			296
Academic	5,790	4,694	10,484	3,921	3,424	7,345
Special	4,567	1,133	5,700	761	652	1,413

Notes: (1) Not all activity was reported by type of library. Thus the totals in this Table do not agree with the totals cited earlier.
(2) The figure of 652 reported for items borrowed from special libraries out of state may include some loans from the Library of Congress. Respondents interpreted the term "Special library" differently in this respect.

Restrictions

These larger libraries impose more restrictions on interlibrary loan activity than is the case with the smaller libraries. A list of restrictions follows in Table 17, the number at the right showing how many libraries reported that item.

Microforms

Items in microform are borrowed and loaned by some libraries, but in sum the number of transactions is small. Ten of the reporting libraries lent 119 items; sixteen borrowed a total of 341 items. It should not be assumed that material on microform is not important; no attempt to assign *values* to types of material was made.

TABLE 17

Restrictions on Interlibrary Loans

	Number of Institutions
Restrictions on loans:	
–rare books are loaned	5
–reference books not loaned	4
–worn-out books not loaned	4
–periodicals not loaned	4
–current periodicals not loaned (under 10 yrs.)	2
–prefer to copy periodicals	3
–use ALA ILL Code	3
–use ILL Code of Philadelphia area: 1959	1
–use Guide to Lending Practices, Bd. of Regional Resource Centers, State Lib., 6-1-63	1
–theses or dissertations not loaned	2
–medical theses not loaned	1
–only copy of theses or dissertation not loaned	1
–current imprints not loaned	2
–psychology journals not loaned	1
–reserve books not loaned	1
–material in special collections not loaned	2
–unbound serials not loaned	1
–loans not made to libraries west of the Mississippi	1
–loans not made if there is a heavy local demand	1
–art and archaeology materials restricted to use in borrowing lib.	1
–material loaned to libraries in same city must be picked up in person	1
–period of loan depends on demand for the material	1
–insufficient personnel restricts loans	1
Restrictions on borrowing:	
–borrow only for faculty	2
–borrow only for honors and graduate students	2
–borrow only for undergraduates approved by faculty or administrative member	2
–will not borrow for undergraduates	2
–will not borrow materials already owned by school	1
–will not borrow for purposes not concerned with academic pursuits	1
No restrictions	2

Photocopies

Fourteen libraries supplied photocopies rather than the original form in 870 transactions. The average cost charged for such copies was $.14 per page. Charges ranged from $.05 to $.25 per page.

Types of requestors

This question was not sufficiently clearly stated or else detailed records are not maintained uniformly. It appears that most requests were made for faculty members, although a substantial number were for students. "Others" (perhaps library staff and administrative staff) accounted for only a small per cent of the total. Loans are made for both graduate and undergraduate students by most of the respondents.

Policy on purchase of material requested

Most (18) of the libraries have policies regarding purchasing items rather than borrowing from other libraries (or, in a few cases, in addition to borrowing). The policies are summarized in Table 18.

Use of union catalogs

All responding libraries reported using union catalogs to locate desired items. Printed catalogs were also used. Table 19 contains a list of catalogs consulted.

TABLE 18

Policies on Purchase of Material

Policy	Number of Institutions
Buy if in print	6
Buy if in print and important for library collection	5
Buy if in print and frequently requested	3
Buy if in print unless the cost is over $20	2
Buy if in print but borrow if needed at once	2

TABLE 19

List of Union Catalogs Used

Catalog Cited	No. of Responses
Philadelphia Union Library Catalogue	17
National Union Catalog	16
Library of Congress	9
Union List of Serials	7
New Serial Titles	4
British Union-Catalogue of Periodicals	1
Midwest Inter-library Loan Center	1
Kapsner: Benedictine Bibliography	1
Carnegie Union List of Serials	1

Twenty libraries reported that a total of 8,499 requests went unfilled. This total includes requests these libraries did not have and requests for items which could not be located or where lending was refused. This substantial number suggests that detailed study of the issue should be high on the list of future investigations.

The picture of interlibrary loan may be made somewhat more clear by the following list of libraries which lent more items than they borrowed.

PHILADELPHIA UNION LIBRARY CATALOGUE

The Union Library Catalogue is a non-profit corporation founded in 1936 by a group of librarians, educators and interested citizens for the purpose of making available information about the resources of certain libraries in the Philadelphia area. Since its inception it has been housed in the library of the University of Pennsylvania and supported by membership dues. Those dues vary

TABLE 20
Libraries Which Lend More Than They Borrow

Institution	Size of Collection	Rank by Size of Collection	Borrowed	Loaned	Items Loaned to Items Borrowed	
					Ratio	Rank
Penn	1,744,680	(1)	1483	5135	3.46	(3)
Pitt	1,021,343	(2)	1199	1267	1.06	(11)
Pennsylvania State	659,516	(3)	869	1725	1.99	(6)
Temple	584,654	(4)	805	1560	1.94	(7)
Lehigh	401,600	(5)	682	879	1.29	(10)
Bryn Mawr	290,646	(6)	493	1048	2.13	(5)
Swarthmore	236,392	(7)	566	1074	1.90	(8)
Haverford	225,586	(8)	663	1203	1.83	(9)
Carnegie-Mellon	204,149	(9)	386	1600	4.15	(2)
Villanova	174,149	(10)	173	381	2.20	(4)
Drexel	169,064	(11)	138	1106	8.01	(1)
F & M	165,900	(12)	781	786	1.00	(12)
SMALLER LIBRARIES						
Private Colleges	**Size of Collection**		**Borrowed**	**Loaned**		
U. Scranton	72,660		59	84		
Albright Coll.	62,885		1	22		
Kings Coll.	60,977		98	156		
Immaculata	51,236		19	33		
Beaver Coll.	44,695		35	38		
Gannon Coll.	35,800		25	210		
Mt. Mercy Coll.	[illegible],250		28	57		
Villa Maria	13,191		30	75		
St. Josephs Coll.	—		10	21		
Blessed Sacrament	—		4	35		
JUNIOR COLLEGE						
Chestnut Hill			34	66		
SPECIALIZED INSTITUTIONS						
Moore Inst. of Art	—		4	22		
Phila. Coll. Textiles & Sci.	—		5	25		
Curtis Inst. of Music	26,580		0	9		
Penna. State Coll. Optometry	7,904		4	15		
Jeff. Med.	—		739	1019		
Phila. Coll. Phar. & Sci.	10,031		62	235		
Western Psych. Inst. & Clinic	25,956		81	176		

No outlying campus or state college library loaned more than it borrowed.

according to the member library's book budget and distance from Philadelphia.

In 1962, the Board of Regional Resource Centers, seeing the Catalogue as a valuable aid to them in the discharge of their duties under The Library Code of 1961, resolved to request certain services of the Catalogue. The titles currently cataloged in the Penn State Library, the Free Library of Philadelphia and the State Library were then being entered in the Union Library Catalogue. Starting in 1961, the titles currently cataloged in the Carnegie Library of Pittsburgh were added. For this reason, and by reason of general growth, the Catalogue has gradually changed and enlarged its function. As was seen earlier, a majority (17) of the larger academic libraries use the Catalogue in pursuit of interlibrary loan service. Thus, the Catalogue has become, in a sense, a central communications point for many Pennsylvania libraries. A significant portion of the Catalogue's operations are now paid for by state funds directly through the Regional Library Resource Centers.

In consultation with the director of the Catalogue, a time period for drawing a sample of the incoming requests for assistance in locating bibliographic items was set. The period included ten working days, spread over two months. A record of each request was made, excluding the identification of the person or agency making the request. The following paragraphs are an analysis of this information.[15] This analysis is not, however, an attempt to provide information about the extent of activity or value of the Catalogue. Such information would have to result from a differently organized and more extensive study.

Volume of activity

The total number of requests, filled and unfilled, in the sample is indicated in Table 21 by main Dewey class. The division between journals and proceedings and books also by class, as nearly as could be determined from the titles, is indicated in Table 22.

Distribution by Date

The distribution of all requests by date of publication from 1963 through 1900 is shown in Graph No. I. The curve suggests the trend. The distribution by date within each Dewey class follows the general curve. However, no requests were received for the class 100 (Philosophy) with publication date prior to 1931. No requests were received for the class 200 (Religion) prior to 1905. Otherwise, there were only three years (1918, 1908 and 1904) for which no requests were received. No detailed analysis prior to 1900 was made. Forty-seven requests were for material dated prior to 1900 and for seventy-two no date was given. Many of these were requests for location, apparently, of any back file of a journal or proceeding.

[15]Mr. George Bordner, Director of the Technical Services Division of the Pennsylvania State Library, assigned each request to a main class in the Dewey Decimal classification system.

TABLE 21

Total Requests Received by Union Library Catalogue (Sample)

Dewey class.	Filled	Unfilled	Total	Rank
100	38	13	51	6
200	40	8	48	8
300	114	26	140	2
400 & 800	66	17	83	4
500	120	12	132	3
600	180	46	226	1
700	46	3	49	7
900	66	14	80	5
	670	139	809	

Note: The few general requests received in the 000 class have been added to the appropriate subject class.

TABLE 22

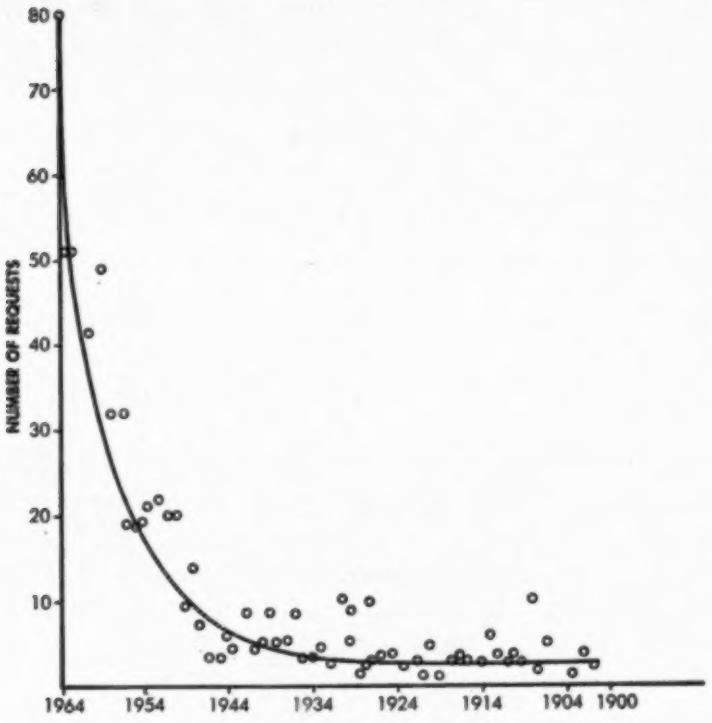
Distribution of Requests by Type of Material (Sample)

	Journals and Proceedings		Monographs	
Dewey Class.	Filled	Unfilled	Filled	Unfilled
100	12	2	26	11
200	8	—	32	8
300	17	6	97	20
400 & 800	8	3	58	14
500	43	5	77	7
600	60	17	120	29
700	3	—	43	3
900	—	1	66	13
	151	34	519	105

Note: The few general requests received in the 000 class have been added to the appropriate subject class.

Identification of requestors

Identification of requestors was judged to be confidential and not entered on the records. Experience suggests that requests originate from many places within Pennsylvania and without, but that most are received from libraries in the southeastern quarter of Pennsylvania, according to the Director. Further detailed analysis, including studies of the use made of information obtained and the degree to which users are satisfied with the service are in order.



GRAPH NO. I
DATE OF MATERIAL FOR WHICH LOCATION WAS REQUESTED
UNION LIBRARY CATALOGUE SAMPLE
(1964-7900)

FRANKLIN INSTITUTE LIBRARY

The Franklin Institute in Philadelphia is a non-profit organization devoted to science education and research. Established in 1824, it maintains a research library of about 250,000 volumes primarily centered on the physical sciences and technology. Recently the library has been used more and more by business and industry through a photocopy service. Because of the nature of the collection of this library (the Institute subscribes to about 3,000 periodicals) and the fact that it possessed quite detailed records of its photocopy transactions, it provided a unique opportunity to study exchange of information on an inter-institutional basis, particularly in technical and scientific journals.

A systematic sample was taken of the vouchers, inter-office order forms, letter requests and teletype records of *filled* requests, dated from January 1, 1962, through December 31, 1962. Records of unfilled requests do not exist. The vouchers were given precedence in recording the information about title, date and so forth. All records made from the Institute's files have now been destroyed in the interest of maintaining their confidential nature.

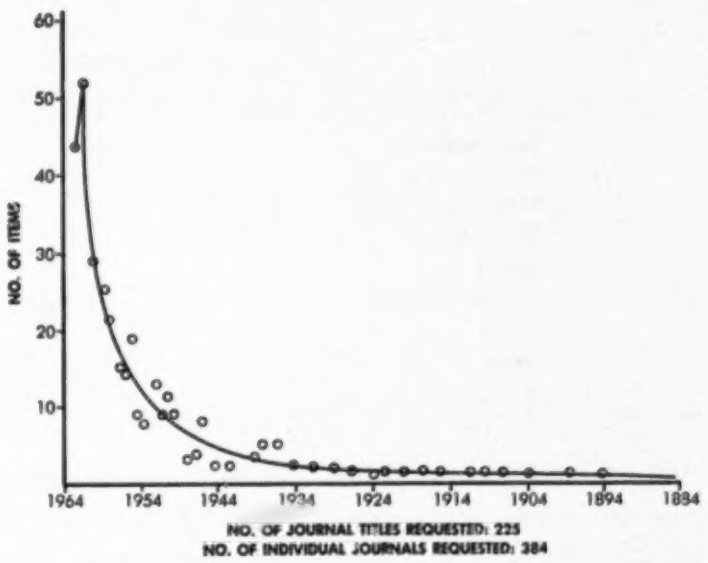
The sample consisted of 476 items, of which 58 were U. S. patents and 24 were British patents. These were removed from the sample for certain purposes, and the remaining records of journals furnished in photocopy were analyzed.

Distribution by date

Graph No. II shows the number of requests for material by year of publication. The curve represents the trend.

The requests were divided into five categories: (1) American industrial publications, (2) American professional society publications, (3) Miscellaneous American publications, (4) Foreign professional society publications, and (5) Miscellaneous foreign publications. The total number of titles requested was 225, divided as shown in Table 23.

Age distribution within each category follows the trend of all requests. Most titles appeared only once in the sample. The title which appeared most often (eleven times) was the *Journal of the Chemical Society* (London).



GRAPH NO. II
SUMMARY OF SAMPLE OF REQUESTS FOR COPIES OF MATERIAL FILLED BY FRANKLIN INSTITUTE LIBRARY, PHILADELPHIA, PA.

Requestors

Data for this section are drawn from analysis of the entire sample, including patents.

Requests originated from 103 different organizations. All but two of those organizations were industries or businesses. The other two were universities in the Philadelphia area, and one of those appeared in the sample only once. Seventy-nine of those industries or businesses are located in the Philadelphia area or, in a few cases, other parts of eastern Pennsylvania. Location of the requestors is shown in Table 24.

TABLE 23

Titles Identified in Sample
Franklin Institute Photocopy Service

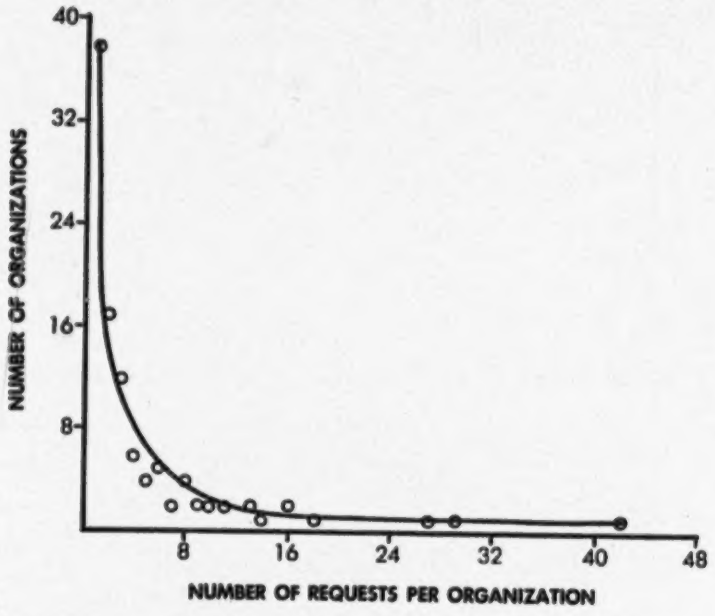
Category	Number of Titles in Sample	Total Number of Requests in Sample
American Industrial	69	109
American Professional Society	32	65
Misc. American	33	43
Sub total	134	217
Foreign Professional Society	65	63
Misc. Foreign	26	104
Sub total	91	167
Total	225	384

TABLE 24

Location of Industries or Businesses Receiving Photocopy Service from Franklin Institute (Sample)

Location	No. of Industries or Businesses
Pennsylvania	79
New Jersey	12
New York	4
Delaware	1
Indiana	1
North Carolina	1
Ohio	1
Utah	1
Virginia	1

The largest number of items (in the whole sample) received by one organization was 42. The next largest was 29; and most organizations appeared fewer than five times in the sample. Graph No. III presents this information.



GRAPH NO. III
FREQUENCY OF USE,
FRANKLIN INSTITUTE PHOTOCOPY SERVICE

Summary

In general, there is a direct relationship between rank in size of academic library collection and rank in number of loans made to other libraries in these fourteen largest libraries. Many generalizations about the costs of interlibrary loan have been based on the assumption that this is virtually always the case. The fact is that there are significant exceptions to the rule in two ways. First, the largest library in terms of volumes held did in fact lend far more than it borrowed (about 3.5 times), and it lent far more than any other library.[16] In fact, it lent more than the sum of loans by the next three academic libraries in rank order. At the same time, the library ranking second in holdings ranked fifth in loans, and it borrowed almost as many items as it lent. Second, libraries of specialized institutions appear to lend substantially more than they borrow (ranging from 4 to 8 times). Thus, the generalization that a library's interlibrary loan burden is proportionate to its collection size is neither sound nor helpful in understanding the situation. It would be more helpful to make a series of generalizations somewhat more refined than the one just stated.

1. A few very large academic libraries carry a rather large share of interlibrary loan. (The only such library in Pennsylvania appears to be that of the University of Pennsylvania.)
2. Many fairly large general libraries (academic and public) lend somewhat more than they borrow, but the ratios vary widely and their total activity is far less than that of the very large libraries.
3. When the general academic library grows beyond 200,000 volumes it usually lends more than it borrows, though total activity may be small and the difference between items lent and borrowed small.
4. Libraries with strong special collections (e.g., science, technology and medicine) ordinarily lend a good deal more than they borrow, regardless of the size of the collection.
5. Individually, small academic libraries vary greatly in their interlibrary loan activity, but collectively they contribute significantly to the total workload involved.
6. Both the number of items loaned and the ratio

[16]The Franklin Institute supplied nearly as many items, however, from its much smaller collection.

between that figure and the number of items borrowed are significant in determining the portion of the total interlibrary loan burden borne by a library.

7. It appears that libraries of industries and businesses draw upon the resources of all other libraries far more freely and supply less to other libraries than is the case with libraries of academic institutions and of non-profit institutions primarily engaged in research.

Judged in terms of number of interlibrary loan requests per 1,000 volumes held, the specialized libraries connected with academic or non-profit research institutions show a higher rate, regardless of size, than do the large general libraries. Were one to equate rate of interlibrary loan with success, then, one might wish for a system composed of many specialized libraries rather than a few large general libraries. This question is certainly not resolved in this study, but the hint for future study is certainly rather broad.

V/NATURE AND CHARACTERISTICS OF A FEASIBLE SYSTEM

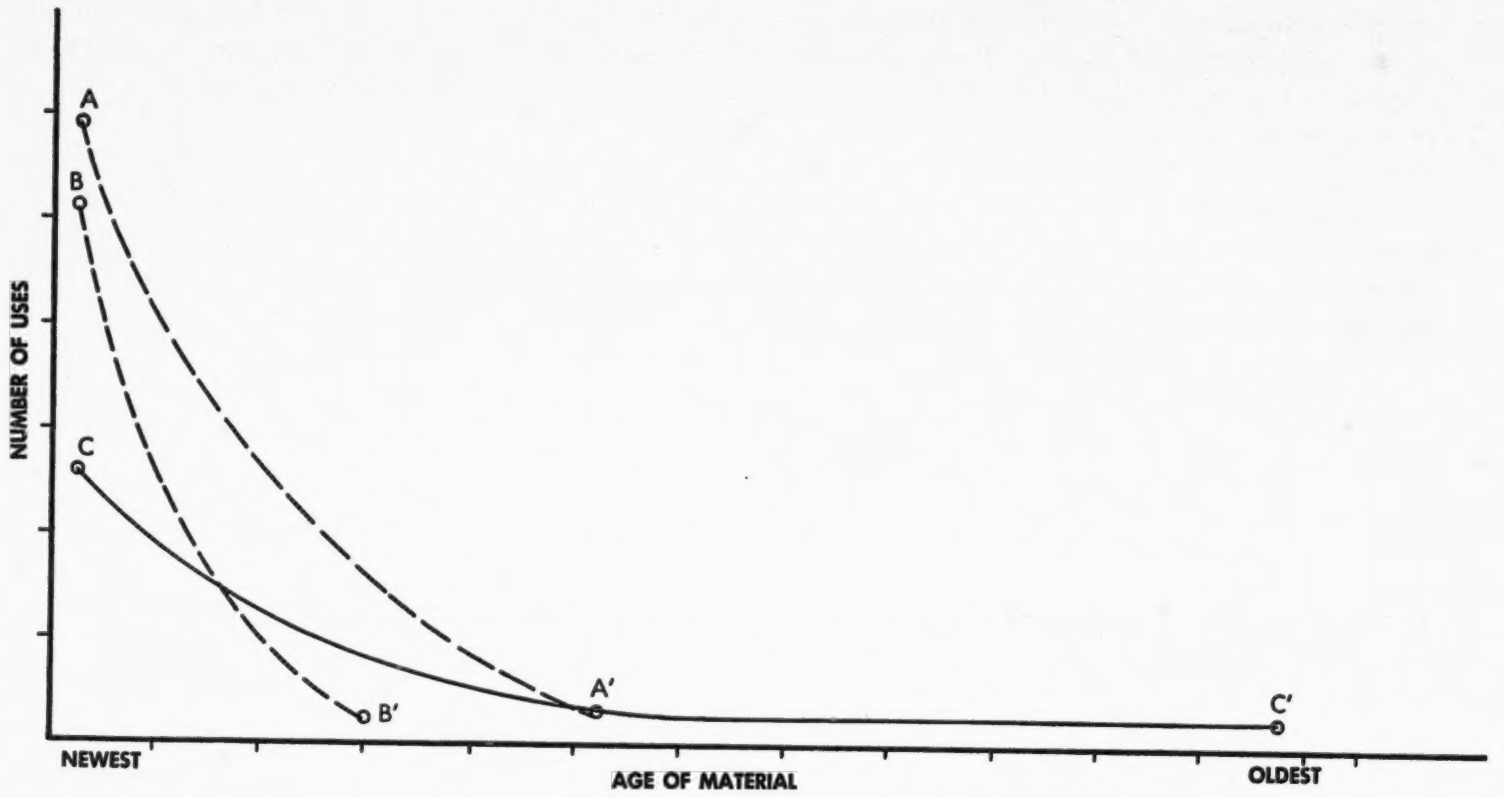
We are accustomed to dealing with place communities in studying libraries. The "library survey" is a common and often useful administrative tool. Thus, the method of describing the library as a part of a place community is understood. A community, in this sense, may be a municipality, a college, a university, an industry or other unit. The concept of "interest community" without regard to place as the service responsibility and source of support of a library has emerged in such libraries as the National Library of Medicine and the National Library of Agriculture. Some very large general libraries (e. g., the New York Public Library) have given a somewhat more limited service to residents of many place communities and to members of interest communities regardless of whether or not they provide basic support to the library.

The Library of Congress occupies a unique position in that it is supported by the entire country and has been generous in its support both of interest groups and of other libraries.

The academic library, with its "rounded" collection vaguely felt to be well-supported but not especially strong in any one area, is essentially attempting to spread limited resources thinly over a large number of interest communities located on the campus. As the library grows, it gains an increasing chance of satisfying these interest communities and, as it grows well beyond 1,000,000 volumes, it appears to be able to give support to members of interest communities in other places. Certain special libraries, of which the Franklin Institute is only one (possibly outstanding) example in Pennsylvania, support interest communities even though the libraries may be relatively small in size as compared to the great university libraries.

It may be said that the activities of the members of an interest community result in pressure for library growth ("energy"). The special librarian is, then, in the position of focusing this energy. In the small general library, the librarian is engaged in diffusing the various energies. The result in the latter case is a library capable of supporting relatively general or "low level" demands. But the audience (the faculty, for example) has within it persons with varied interests, each needing larger collections. This conflict is easily seen in the academic atmosphere; it is less easily seen in the application to industry and business though it exists there nevertheless. The resulting conflict has brought into being a voluntary system of libraries. This voluntary system has two aspects. First, librarians have developed various methods, described in the previous chapter, for exchanging materials. Second, many individuals have discovered that there are few restrictions placed upon use of most libraries provided one does not ask to remove materials from the library's premises. The system is based more on responses to pressures than on conscious planning. The system functions with less facility and at a lower volume than is desirable. For example, attitudes sometimes appear to impede the operation of the system. Furthermore, the individual who has no organizational connection, or whose organization is not well served by its own library, is poorly served by the system.

The general character of a system or network of libraries with several levels of service and/or several types of libraries is suggested by Graph No. IV. For the moment, it may be helpful to review the projected system of Pennsylvania public libraries in the light of this "family" of curves.



GRAPH IV
ABSTRACT CURVES OF USE FOR A SYSTEM OF LIBRARIES

Within the terms of The Library Code, the local library in a relatively small town (or a branch in a large city system) might be expected to have its resources drawn upon in the general manner suggested by the curve B-B′. The function of this type of outlet is to supply currently useful material and the most used recreational items. For the most part, the greatest number of requests will be for material of recent date. Furthermore, since both the small local library and the city branch library are members of systems, it is possible for them to discard, or pass to the district center library, any material which is not in active use and to concentrate their energies on duplication of recent, most frequently used items. Where this concept is implemented, relatively quick service for the most-used items should be available to most users. Assuming good communication within the system and the genuine desire of all concerned to make the system work, these small libraries may then call upon other parts of the system for older items or refer borrowers to the stores of such items existing in the system.

A curve of the nature of A-A′ may be characteristic of the district library center. Here, in a population center, there will be a somewhat larger number of requests than in the smaller library or branch, but all indications are that the general shape of the curve will not be far different in the sense that most requests will be for material of recent date.[17] However, the district library center will be expected to have a larger and somewhat more specialized collection than the average local library. Thus, it should be prepared to hold a larger number of items in its collections for a longer period of time. Its "use curve," then, should be expected to extend somewhat further back in time.

Three of the Regional Library Resource Centers are district library centers and one is at the center of the entire system. Two of them are also local libraries. Thus, they will experience the same types of demand for currently useful materials and recent recreational material as do the local libraries. These libraries, however, are by definition expected to retain large numbers of items in their collections for indefinite periods of time. These libraries have what may be characterized as both lending functions on a large scale and curatorial functions.

The curve C-C′ represents the part played in the system of public libraries by libraries whose collections are represented in the Philadelphia Union Library Catalogue. These libraries for the most part will have different curves, normally higher and steeper at the left, when considered from the point of view of their normal constituencies.

[17]For a detailed analysis of actual requests made in several academic libraries, see Fussler, Herman, "Patterns in the Use of Books in Large Research Libraries." Chicago, the University of Chicago Library, 1961 (Council on Library Resources, Inc. Grant 64). 283 pp. plus appendices.

This family of curves has several uses. First, it makes it possible to visualize the roles to be played in the use of resources and consequent development of collections which may be anticipated in the public library system. Second, it has possible use in the development of resources within the system. For example, were the collections of local libraries to be compared with actual use of those libraries, it should be possible to make certain management decisions with rather sharply defined objectives. Such questions as "Does the projected use curve actually hold true?" and the obvious subsidiary "If not, why?" should lead the administrator to inquire into the relation of collection to use of collection. The collection and use curves, it might be posited, should be quite similar in this type of library. If they are not, the library is probably not making best advantage of the system. Many of the savings of money claimed for the library system lie in the careful tailoring of the collections of most libraries, local and district, to actual use with considerable reliance being placed on the other levels of the system to supply little used materials. Decisions based on marginal utility, in other words, may be made locally without fear of permanent loss of potentially useful items.[18]

Whereas at the local library level the collection to a large degree probably determines the use curve, at the district library center and, even more at the Regional Library Resource Center level, the collection *permits* the use curve suggested here.

It should be possible to develop means of making fewer mistakes in selecting materials for large volume current use than for small volume long-term use. Thus, the small library's purchases should be more efficient as judged by cost per use. Furthermore, mistakes can be readily discarded from the small collection because it has little curatorial responsibility. (It is assumed that virtually any local library may feel responsibility for retaining a small amount of material relating to local history.)

Academic and special libraries: The curve B-B′ may be found in several types of libraries which fall within the scope of this study. For example,

1. The pragmatically administered business or industry library.
2. The junior college library.
3. The small specialized outlet in a large university system. (Departmental library, under certain conditions)
4. The small general outlet in a large university system. (Dormitory library, for example)
5. The outlying campus library operated by a large university.

Because these outlets may be expected to distribute current materials, they are to be considered the normal responsibility of the institution served. That is, these outlets are as much a part of the instructional expense as are all other necessities such as laboratory equipment or classroom space. Furthermore, relatively heavy duplication of titles will be required here if service is to be given speedily.

The curve C-C′ probably is typical of such a library as the Franklin Institute's. Here, a relatively small in-house research staff may be expected to use a relatively large amount of current material. That staff, together with a large number of industries and businesses, calls upon the many items of scientific and technical nature which the Franklin Institute Library preserves for an indefinite period. It is probable that other similar situations could be located within Pennsylvania.

The largest general libraries (in this instance, the University of Pennsylvania library) could be expected to exhibit a use curve similar to A-C′. Here, a combination of undergraduate, graduate and research programs require the provision of large quantities of current material in a wide range of subjects and, in the same institution, the maintenance of large stores of varied materials over long periods of time. Such a library reaches a point where it begins to be an agglomeration of special collections rather than a single "rounded" collection. The curve A-A′ probably is typical of the well-developed college library and the small university library.

The prevailing attitude among academic librarians places considerable emphasis on building up collections of both current and historical nature, covering a wide range of subjects. It is possible that this approach to the provision of library service accounts for the opinion of many faculty members that the library is generally well supported and is adequate, but not particularly strong in the area of primary interest to the faculty member. "Strength" in the mind of the faculty member interested in both keeping up with current developments in his area of interest and in participating in research probably requires the Franklin Institute or the University of Pennsylvania *type* of collection.

It is of use here to comment again that the Franklin Institute Library makes available to other organizations almost as many items per year as does the University of Pennsylvania. Because of the limited subjects covered by the Franklin Institute collection and its relatively small size it must be judged the superior collection in terms of its contribution to the existing informal system.

It is common in large-scale library systems planning

[18]The extent to which the nature of a collection determines the use made of the collection can only be surmised. However, Elizabeth Mueller's "Are New Books Read More Than Old Ones?" (*Library Quarterly*, Vol. 35, July 1965, pp. 166-172) furnishes some rather clear evidence that the use pattern of a small public library can be "shaped" rather readily.

to attempt to divide responsibility for acquiring and preserving materials by subject[19] among a number of relatively large general libraries. These plans have been successful to a limited extent but they have often encumbered the directors of the libraries with conflicting objectives. On the one hand, the traditional thrust of the general library has been to cover a great number of subject areas, since most are attached to universities with many interest communities. Perhaps as a result of the prestige accruing to these efforts (among other factors) the creation of large rounded collections with preservation functions has become a practice with the directors of large public libraries. To attempt to impose special subject responsibilities on such libraries then suggests interference with general responsibilities in one way or another. It may be that it is impossible to escape entirely from this dilemma. However, the concept of a system of libraries suggested by the family of curves in Graph IV may be helpful.

If the system which seems to exist on a voluntary basis can be formalized to a degree upon mutually agreeable grounds, then it should be possible for managers of colleges, industries or other organizations calling upon the system to develop roles in the system based upon primarily local considerations. Clearly, when one is dealing with current materials, duplication is primary and preservation quite secondary. Theoretically, a college administrator could reach a decision (or, more likely, a series of related decisions) with respect to his library's responsibilities for rapid service versus responsibility for long-term preservation of materials, if the other parts of the system could be relied upon to have (or obtain) items and to deliver them quickly as needed to satisfy the interest communities represented on campus. It is not suggested here that an organization participating in the system should shirk its responsibilities, but quite the contrary: it should establish its responsibilities in as clear a fashion as possible and then not burden the system with those. Thus, it would actually relieve the system of demands to which the system is ill-suited to respond and make maximum use of those to which it is suited to respond. Such a system would require financial support from a general fund; that is, system benefits cannot be paid for out of the budgets of colleges, universities, private libraries or businesses. Experience suggests that this may be at the root of the present limitations of use of resources.

It should be possible to verify the major assumptions underlying this concept rather easily. If the concept is valid, then it appears that it should be possible to aid in the development of the whole system by utilizing the existing energies accruing from interest communities. Obviously, utilization requires support: financial support, development of communications systems and creation of leadership or coordinative capacity.

Characteristics of a possible system: This section of the present study is based essentially on two assumptions: First, that the evidence presented, other studies referred to and experience strongly suggest that there is a voluntary system of libraries in existence and that it is reasonable to describe its functioning in terms of the curves of use shown above; and, second, that the decade ahead will so obviously require that information services be increased that there will be a willingness on the part of some public and private agencies to pool resources to a degree through the formal development of a more effective system of information transfer from one institution to another.

The first requirement of a system of library services for academic and other institutions requiring specialized information is that it be based upon a definition of scope and purpose to which these varied organizations can agree.[20] Agreement will be meaningless, of course, unless the scope and purpose are such as to increase the capacity of most of the organizations involved to reach their own objectives. As indicated earlier, these objectives vary widely. It should be emphasized, therefore, that this statement should not represent an agreement among librarians but among faculties, researchers and top managements. That is, the consumers of specialized information and the persons responsible for setting the conditions of action, rather than the suppliers, should find agreement, working with the librarians concerned.

A second requirement is that it be made clear that the system will be designed for the use of persons in any part of the state. Two areas (the Philadelphia and Pittsburgh areas) in Pennsylvania are currently far better supplied with information services than are others. However, academic institutions are spread over the entire state and economic activity in other areas will benefit from rapid, efficient information supply. Thus, the system must be designed, for maximum utility, to transmit information without geographic barriers.

A third requirement is that the system not demand total commitment from all organizations using it. It must be voluntary and "open-ended" in the sense that

[19]See, for example, Martin, Lowell, *op. cit.*, pp. 108-10.

[20]It may be useful to think of a system of libraries for the state as consisting of libraries having various functions or roles. For example, the small college library ordinarily serves little else than its own students while the great university library serves a variety of interest communities. When a group of nearby libraries having the same or nearly the same roles cooperate, benefits may accrue to all. This regional arrangement, however, is not a "system," though cooperation of this type may be useful and result in some increase in service. In the system, there will be considerably more opportunity for inter-institutional exchange of materials, so the opportunitites for reduction of cost per use are multiplied.

certain organizations should be free to use it without committing all of their own resources to the system. This type of use will be especially important for businesses and industries.[21]

A fourth requirement is that the system may not limit the activities of participating organizations, but must supplement them. For example, the assignment of responsibility for a time period and/or group of subjects to an institution should make possible, but not mandatory, activity in those areas by other organizations. Participation in the system, in short, must be an advantage in all respects.

Fifth, the system should be aimed at the lowering of barriers to use. Reduction of stresses, real and imagined, on present libraries is perhaps the most urgent requirement. These stresses apparently have resulted in unwillingness to explore rapid communication devices to a maximum degree, negative attitudes toward interlibrary loan and, generally, a sense of possessiveness about library collections. These restrictions combined with the predilections of librarians in turn have led to the development of many rather small general library collections doomed forever to compete with one another for comprehensiveness both as to subject area and time period coverage.

Sixth, the system should be multi-centered to make maximum use of the energy generated by interest communities and to permit the development of assignments of responsibility in subject areas and in time periods. It should also permit each institution the largest possible area of choice as to the role or roles its library should adopt.

Seventh, the system must develop a sensing mechanism to make possible the measurement of frequency of use in a variety of ways so that the design may be subject to continual improvement.

Eighth, the system should permit the development both of state-wide cooperative programs and of regional programs, centered on institutions which serve (or may serve in the future) as hubs of regional systems. The Penn State library and the Bucknell Library, for example, appear to serve such a function already.

Ninth, the system should aim at increasing the total resource *and* at increasing the use of resources. It is in the nature of information that total cost will inevitably increase. Increased use may make it possible to bring cost per use down.

Leadership: Initiative for programs of cooperation in the information field logically should come from the state. Use of the Franklin Institute library by business and industry provides one concrete example of the dependence of those organizations on a system for preserving and servicing large stores of information. The state may well take the responsibility of insuring a flow of information for various purposes just as it takes responsibility for insuring that products may flow over a network of highways. Major areas for potential immediate state action are:

1. Further, more detailed studies to confirm or refute the implications of this study.
2. Immediate formulation of expanded cooperative plans with the state colleges and the State Library.
3. Development of non-success oriented demonstration[22] programs to test system designs. Both public and private institutions should be included.
4. Development of new communications devices and encouragement of existing organizations.
5. Active involvement in the academic and special library spheres through the addition of advisory service personnel to the State Library.

These efforts should lead over a relatively short period of time to the development by the Advisory Council in Library Development of a detailed statement of policy and program.

Building libraries and library collections requires time, patience and money. The development of national networks in certain special fields of knowledge will undoubtedly continue. Medicine and agriculture furnish two examples in which networks already exist. However, we cannot assume the development of such centrally operated systems in all fields of knowledge. Furthermore, such networks cannot substitute completely for libraries designed to serve either highly specialized needs or libraries designed for use by large numbers of students and faculty. These national networks, then, must be considered as supplements to local, regional and state systems for information distribution.

[21] It is not appropriate for an academic institution to assume that it can freely enter and leave the system. Development of a role for such a library will be a result of much collection of data and of making many decisions to satisfy the various interests represented on a campus. Continuity of action will thus be very important.

[22] A non-success oriented demonstration is defined as one designed primarily to produce information needed to make future decisions, not to result in a continuing service or organization. Often, though not always, such a demonstration will carry a terminal date, or will be so designed that its termination will not be difficult.

APPENDIX

DATA BANK

Thus far in this study, attention has been concentrated on cooperative programs involving stores of information in normal library form. For the most part, "normal form" means printed materials, and ordinarily it means journals and books. To be sure, libraries of various kinds collect other types of informational materials, but seldom for the same purposes. A collection of educational films contains much information, but it is not in the compact form represented by a file of technical journals, nor is it amenable to the same types of indexing. Librarians act, for the most part, on the theory that print equals information.

Such an outlook is appropriate for some fields of knowledge and doubtless always will be. However, for the subjects in which the rate of development is especially high, books and journals appear to be playing a declining role for the most advanced specialist. A vast array of ephemeral material, hard to locate and to control, is needed by the person operating in the developmental phases of many disciplines. This section of this report suggests an area of state activity aimed at building up and making available certain data which are normally gathered by state agencies. Some of the information is published, some is not. Even when published, much of it is issued in forms not widely disseminated and seldom correlated.

This appendix represents only a rather superficial review of the concept of a "data bank" and does not pretend to be the result of thorough investigation. Rather, it has been added to the present report to suggest that there is an area of concern and possible action for the Pennsylvania State Library in extending the grasp of a state-wide system to include more than information in books and journals.

Need: As the general rate of change has increased, the need for social and economic planning has increased and the penalties for failure to plan have grown more severe. The data here in question are those which exist but which are seldom brought together. The information available is not collected for purposes of planning in all cases, and thus must be regarded as somewhat imperfect for that purpose. However, it appears possible to begin the process with the thought of modifying it in time.

Audiences: Four audiences for the data envisioned here may be indentified. First, governmental agencies concerned with their own efficient functions should be involved in coordinating activities where feasible. Second, agencies concerned with economic and social planning need a wealth of current data. Third, individuals involved in scholarly or applied research often require access to large quantities of raw data. Fourth, private enterprises concerned with determining future business needs should benefit from data which may be used predictively.

Sources of Data: Much data is collected on a day-to-day basis by state government agencies. This constant flow of information takes the form of requests for licenses, applications for aid or reimbursement and many others. Applications for employment, unemployment insurance, welfare, and medical aid are constantly being processed. In addition, a great deal of information is obtained in periodic reports required by central agencies. Many reports are summarized and used occasionally but most are routinely discarded after the passage of some set time or as a result of sporadic efforts to clean house. Special studies which are often done on a one-at-a-time basis after long intervals also fall into this category.

Input of Data: It should be possible to consider all the sources of data briefly indicated above as input to an information system. If operated solely for the improvement of governmental operations, such a system could lead to an understanding of the degree of overlap which exists in the operations of agencies and the degree to which they require similar information of reporting jurisdictions. Thought of as a source for planning data, such a system could very well contain much information useful in providing methods of accurately forecasting growth patterns and economic development.

Output of Data: Output of information from a data bank should be "depersonalized" tc the greatest extent possible. Without such action, use of this information could constitute an invasion of privacy on a magnificent scale. For this reason, it is useful to envision most output as preliminary analyses of data rather than as lists of names, addresses or other potentially embarrassing information. Within this general framework, it should be possible to require, for instance, that any state agency wishing to collect data should be required to query the data bank to see if it is already being collected in the form (or nearly the form) needed. It should also be possible to aid the other three potential types of users to one degree or another.

The ultimate in effective utilization of an information system would be to move from a position of making exhaustive planning studies at long intervals of time to a position where the planning process could become more or less continuous. No agency in Pennsylvania

smaller in scope than the state government either has access to the required data or can afford to establish an experimental program. It is also possible that actual use of a data bank's output would not warrant its continuance.

Administration of the Experiment: A data bank of the scale suggested and supplementing a state library system is at present an untested concept.[23] Any program in this area should be both experimental in outline and fully developed. That is, it should be most carefully planned by persons competent in research techniques with specific objectives in mind. It should be fully implemented and publicized among the potential audiences and access to the data bank should be made as easy as possible. An evaluation phase should be incorporated into the original design. If evaluation shows that the program is not successful, it should be terminated and others begun. Freezing this program into the bureaucracy of government at an early stage should be avoided even at the cost of carrying out much of the work on contract basis.

[23]For a recent study concerning data banks and an informative bibliography see Harold H. Haak and W. Richard Bigger, *A Coordinated Data System for Metropolitan San Diego* (San Diego; Public Affairs Research Institute of San Diego State College, 1966).

Source: U. S. Department of Health, Education and Welfare, Office of Education. Library Statistics of Colleges and Universities, 1962-63, Institutional Data. (Circular No. 729).

U. Ed. 7-694